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EXAMINER	
THERIAULT, STEVEN B	

ART UNIT	PAPER NUMBER
2179	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/081,841	CARLIN, BRUCE	
	Examiner	Art Unit	
	Steven B. Theriault	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the following communications: The original application filed on 02/20/2002.

2. Claims 1-19 are pending in the case. Claims 1, 4, 12, 14, 18 and 19 are the independent claims. Applicant's attention is directed to the fact that a new examiner has been assigned to this case. The Examiner's name and telephone number are provided below.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim 1 is objected to for the following informalities: The phrase "....communicating from the second computer any associated computer" is unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. **The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-7, 9, 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Bourdelais et al (hereinafter Bourdelais) U.S. Patent No. 6,727,925 B1 issued Apr. 27, 2004.**

In regard to **Independent claim 1**, Bourdelais teaches a computerized method of generating and rendering over a digital communications network a photorealistic three-dimensional (3D) perspective view of a 3D object selectively positioned and angularly positioned within a 3D scene, the method comprising:

- Selecting at a first computer an object with which there is associated a derived or companion low-resolution 3D object model, and a scene with which there is associated a derived or companion low-resolution 3D scene model; (Bourdelais column 2, lines 1-15 and column 10, lines 42-67 and Figure 8) Bourdelais teaches an online commerce system that allows users to select furnishings to be placed in a 3d perspective view of a room that represents a real life depiction of the furnishing in its final location. Bourdelais also teaches the selecting of a chair to be placed in the scene. Bourdelais teaches the image of the chair is a simplified low-resolution image. Bourdelais teaches that the simplified image means that it is a wire-framed image but nonetheless the image contains depth and is rotateable (see figure 10). Additionally, Bourdelais teaches the image of the room and image of the furnishings can be low-resolution images to allow for quicker processing at the browser (column 2, lines 37-45).

- Rendering at the first computer from the derived or companion low-resolution 3D object model, and from the small derived or companion low-resolution 3D scene model, a first, rudimentary, low-resolution 3D image of the 3D object in the 3D scene for purpose of previewing; (Bourdelais figures 6-10 and column 10, lines 47-67) Bourdelais shows the rendering at a first browser a low resolution perspective view of the room in 3d. Bourdelais also teaches the resolution of the images is adjustable by the user including the ability to use low-resolution black and white pictures.
- Manually interfacing with the computer and with software processes operating within the computer to size, positionally place and orient the selected 3D object in the low-resolution 3D image, and in the 3D scene, therein developing chosen scale and location and orientation parameters for the selected 3D object in the 3D scene; (Bourdelais figure 9 and 10 and column 10, lines 56-67) Bourdelais teaches the manual manipulation on the interface by the user in adding, rotating and making color selections on the interface. Bourdelais also teaches the process of scaling and locating the object in the room (compare figures 8 and 9) within the interface.
- Communicating from the first computer upon a digital communications network to a second computer identity of the selected object, identity of the scene, and developed scale, location and orientation parameters, all as image information; (Bourdelais column 12, lines 10-25 and Figure 13 and column 14, lines 22-34 and column 16, lines 45-67) Bourdelais teaches the communicating from a browser on a first computer to a server to retrieve the perspective photo realistic images of the newly created room, furnishings and affects. Bourdelais also teaches the system for a networked connected computer that can have a plurality of machines communicating in tandem to generate the images.
- From the received image information in the second and any associated computer, selecting a high-resolution 3D model of the selected object, and selecting or developing a high-resolution 3D model of the scene; (Bourdelais column 12, lines 10-25 and Figure 13 and column 14, lines 22-34 and column 16, lines 45-67) Bourdelais teaches the selecting of images from a

server containing photo realistic high resolution images to match the properties of the selected images on the first browser to send back to the browser to render a realistic view of how the furnishings will look in a real world environment.

- Rendering in the second computer and any associated computer a second, photorealistic, high-resolution 3D composite image of the 3D object scaled, located and oriented in the 3D scene in accordance with the developed scale, location and orientation parameters;(Bourdelais teaches the use of a web server to store or render the images that are requested by the browser. Bourdelais teaches multiple configurations for the first browser to connect to the server or network.
- Communicating from the second computer any associated computer upon the digital communications network back to the first computer the rendered second, photorealistic, high-resolution 3D composite image; (Bourdelais column 16, lines 61-67) Bourdelais teaches the communicating over the world wide web from the web server to the first browser.
- Displaying at the first computer the rendered second, photorealistic, high-resolution 3D composite image (Bourdelais figures 12-14 and column 14, lines 23-34) Bourdelais teaches the displaying of photorealistic 3d images on the display screen the 3d images obtained from the remote computer. Bourdelais also teaches the images are high-resolution color images.

With respect to **dependent claim 2,** Bourdelais teaches the computerized method of generating and rendering a photorealistic 3D perspective view according wherein the manually interfacing is further for illuminating the object in the scene so as to develop lighting parameters; wherein the communicating is also of the lighting parameters; and wherein the rendering of the second, photorealistic, high-resolution 3D composite image of the 3D object located and oriented in the 3D scene is further in consideration of the developed lighting parameters (Bourdelais column 19, lines 35-37) Bourdelais teaches an optional feature of rendering the furnishings within the 3d photo realistic perspective view with effects such as lighting.

With respect to **dependent claim 3,** Bourdelais teaches the computerized method of generating and rendering a photorealistic 3D perspective view according wherein the manually interfacing is further for specifying resolution parameters of the object in the scene; wherein the communicating is also of the resolution parameters; and wherein the rendering of the second, photorealistic, high-resolution 3D composite image of the object located and oriented in the scene is further in consideration of the specified resolution parameters (Bourdelais column 8, lines 65-67 and column 9, lines 1-10 and column 19, lines 55-67) Bourdelais teaches the images in the system are high resolution color images but that black and white images may also be utilized which, provides the inherent ability to adjust the resolution of the images. Additionally, Bourdelais teaches the use of a CAD system or a digital camera to enter the images into the system. It is known in the art, that digital cameras and CAD systems allow the user to adjust the resolution of the captured images.

In regard to **Independent claim 4,** Bourdelais teaches *a computerized method of generating and rendering over a digital communications network a photorealistic 3D perspective image of a three-dimensional (3D) object that can exist in the real world located within, surrounding, or in front of, a 3D scene that can also exist in the real world, the method of presenting a 3D perspective image of a 3D object in a 3D scene comprising*:

- *Rendering at a first computer, communicative upon a digital communications network, a first, relatively low resolution, 3D perspective image of a 3D object in a 3D scene* (Bourdelais figure 8 and 9 and column 10, lines 34-45) from
    - *(1) a relatively low-resolution 3D model of the suitably-real-world object,* (Bourdelais column 10, lines 47-55) Bourdelais teaches the use of wire framed low-resolution images that are 3d.
    - *(2) a relatively low resolution 3D model of a selected suitably-real-world scene, in consideration of* (Bourdelais column 10, lines 47-55) Bourdelais teaches the placing

of the furnishings within the 3d scene. The scene is also a wire frame image in the initial selection stage before the user selects the render button.

- *(3) a selected 3D coordinate position and angular orientation of the 3D object in the 3D scene*, (Bourdelais column 10, lines 47-65) Bourdelais teaches the scaling and locating of the 3d furnishing within the scene.
- *(4) location and orientation of a camera view onto the scene*, (Bourdelais column 16, lines 30-67) Bourdelais teaches use of a digital camera to collect the images and place them on the server. The images are manipulated on the server to create an array of all possible views of the furnishing that can be selected within the scene. Multiple camera views can be taken for a given furnishing.
- *(5) Scene and object size;* (Bourdelais column 10, lines 1-5 and 60-67) Bourdelais teaches the sizing of the object and scene.
- *(6) Parameter of the scene lighting, and* (Bourdelais column 19, lines 35-37) Bourdelais teaches the lighting parameters may be adjusted for a given furnishing.
- (7) Parameters of resolution of any one or both of the object and of the scene; (Bourdelais column 8, lines 65-67 and column 9, lines 1-10 and column 19, lines 55-67) Bourdelais teaches the images in the system are high resolution color images but that black and white images may also be utilized which, provides the inherent ability to adjust the resolution of the images. Additionally, Bourdelais teaches the use of a CAD system or a digital camera to enter the images into the system. It is known in the art, that digital cameras and CAD systems allow the user to adjust the resolution of the captured images.

- Wherein this first, rudimentary, low-resolution, 3D image simply shows the 3D object located and oriented in the 3D scene; communicating from the first computer upon the digital communications network the information (1)-(7) to a second computer; (Bourdelais column 12, lines 10-25 and Figure 13 and column 14, lines 22-34 and column 16, lines

45-67) Bourdelais teaches the communicating from a browser on a first computer to a server to retrieve the perspective photo realistic images of the newly created room, furnishings and affects. Bourdelais also teaches the system for a networked connected computer that can have a plurality of machines communicating in tandem to generate the images.

- From information (1), selecting in the second computer (1a) a high-resolution 3D model of the selected suitably-real-world object, and from information (2), selecting or generating in the second computer (2a) a high-resolution 3D model of the selected suitably-real-world scene; rendering at the second computer a second, high-resolution, 3D composite image from (1) the high-resolution 3D model of the selected object, or derivatives or extensions of this model, and (2a) the high-resolution 3D model of the scene, or derivatives or extensions of this model, in consideration of at least the information (3)-(7); wherein the second, high-resolution, 3D composite image is a photorealistic image of the 3D object in the 3D scene; (Bourdelais column 12, lines 10-25 and Figure 13 and column 14, lines 22-34 and column 16, lines 45-67) Bourdelais teaches the selecting of images from a server containing photo realistic high resolution 3d images to match the properties of the selected images on the first browser to send back to the browser to render a realistic view of how the furnishings will look in a real world 3d environment. Bourdelais teaches the use of high-resolution color images in the rendering of the photo realistic perspective view of the scene once it is rendered (Bourdelais column 8, lines 65-67). Bourdelais also teaches the sending of the photo realistic images from the server to the browser (column 16, lines 60-67).

- Communicating from the second computer upon the digital communications network to the first computer the second, photorealistic, high-resolution 3D composite image;

(Bourdelais column 16, lines 61-67) Bourdelais teaches the communicating over the world wide web from the web server to the first browser.

- Displaying at the first computer this second, high-resolution, photorealistic 3D composite image. (Bourdelais figures 12-14 and column 14, lines 23-34) Bourdelais teaches the displaying of photorealistic 3d images on the display screen the 3d images obtained from the remote computer. Bourdelais also teaches the images are high-resolution color images.

With respect to **dependent claim 5,** Bourdelais teaches the method exercised to the purpose that a prospective purchaser of the suitably-real-world 3D object may be rendered the second, photo realistic, 3D perspective view of a 3D object that is a virtual object; wherein should the virtual object be made real in the world, then it would not merely suitably exist within the suitably-real-world 3D scene, but would suitably so exist as depicted in the second, photorealistic, composite image (Bourdelais column 2 and figures 12-14) Bourdelais teaches the purpose of viewing the furnishings in a realistic fashion to increase the probability they will make a purchase and Bourdelais teaches that by providing the system with up to date listings of available furniture the probability of purchasing is increased.

With respect to **dependent claim 6,** Bourdelais teaches the method wherein the rendering at a first computer of the first, low-resolution, 3D composite image is from (1) a low-resolution 3D model of a scene derived at the first computer (Bourdelais figure 3 and column 7, lines 37-65) Bourdelais teaches the web server exists on a first computer and where the room designer code exist on the same machine which allows for the image to be derived from the first computer.

With respect to **dependent claim 7,** Bourdelais teaches the method wherein the rendering at a first computer of the first, low-resolution, 3D composite image is from (1) a low-resolution 3D model of the object received upon the communications network from the second computer as a model dynamically generated from specifications provided to the second computer by the first computer (Bourdelais column 16, lines 45-67) Bourdelais teaches the simplified images sent to the browser to be used with the user selections of a chair are wire framed 3d images. Bourdelais also teaches that the user makes changes to the images by rotating, scaling the images and adjusting lighting parameters. As the user makes each adjustment the browser connects to the server to retrieve the dynamically adjusted image and the server returns the image to the browser.

With respect to **dependent claim 9,** Bourdelais teaches the method wherein the rendering at a first computer of the first, low-resolution, 3D composite image is from (2) a low-resolution 3D model of the scene received upon the communications network from the second computer as a model dynamically generated from specifications provided to the second computer by the first computer (Bourdelais column 10, lines 1-5 and figure 6) Bourdelais teaches the process of allowing a user to customize the room size to different dimensions. By allowing the user to make the selection, the system will connect to the server and retrieve the new simplified image of the scene prior to rendering which, would be a low resolution wire framed 3d scene image.

In regard to **Independent claim 12,** Bourdelais *teaches a computerized method of generating and rendering over a digital communications network a 3D perspective view of a three-dimensional object that can exist in the real world located within a three-dimensional*

space that can also exist in the real world, the method of presenting a 3D perspective image of a 3D object in a 3D space comprising:

- Using at a client computer upon a digital communications network (1) one or more accurately-scaled 3D models representing one or more associated suitably-real-world 3D objects, and (2) an accurately-scaled model of a 3D scene in which 3D scene the suitably-real-world 3D objects can exist, (3) associated scene camera and lighting parameters, (4) associated placement and rotational information regarding where and at what positional attitude the one or more 3D objects are placed within the 3D scene; (Bourdelais column 10,lines 55-67) Bourdelais teaches the process of scaling the images by the use of a cursor using a logarithmic scale. Bourdelais also teaches the use of a digital camera to create the images (column 16, line 45-55) in which appropriate settings can be employed. Bourdelais teaches the lighting settings (column 19, lines 35-37). (Bourdelais figure 10, column 11, lines 7-20) Bourdelais also teaches the use of rotational cursors to place and move the image anywhere within the scene the user likes. Bourdelais teaches the images are simplified wire images that are 3d and the user selects an object from the drop down menu.
- Transmitting from the first computer upon the digital communications network the information (1)-(4); (Bourdelais column 14, lines 6-34 and figure 1) Bourdelais teaches the transmitting from the first computer browser over a network to a remote computer
- Receiving at another, second, computer upon the digital communications network the information (I)-(4); (Bourdelais column 14, lines 6-34 and figure 1) Bourdelais teaches the receiving of image requests and code at a remote (second) computer.
- In the second computer in accordance with at least the information (1) selecting or generating (1a) a detailed, high-resolution, model of the one or more 3D objects, in accordance with at least the information (2) selecting or generating (2a) a detailed, high-resolution, model of the 3D scene, and in accordance with the (1a) and (2a)

models, and information (3)-(4) and extensions thereof, a high-resolution 3D perspective view of the one or more 3D objects properly scaled, located and oriented within the 3D scene; (Bourdelais column 14, lines 6-34 and column 16, lines 30-67 and figures 8-10) Bourdelais teaches the generating of 3d images in a remote server upon the request of a first computer. The 3d photo realistic images contain at least one 3d object and 3d perspective scene.

- Then transmitting from the second computer upon the digital communications network this high-resolution 3D perspective view; (Bourdelais column 16, lines 55-67) Bourdelais teaches the transmitting of the 3d image over the World Wide Web.
- Receiving at the first computer upon the digital communications network this high-resolution 3D perspective view; (Bourdelais column 16, lines 61-67) Bourdelais teaches the communicating over the World Wide Web from the web server to the first browser.
- Displaying at the first computer this high-resolution 3D perspective view. (Bourdelais figures 12-14 and column 14, lines 23-34) Bourdelais teaches the displaying of photorealistic 3d images on the display screen the 3d images obtained from the remote computer. Bourdelais also teaches the images are high-resolution color images.

With respect to **dependent claim 13,** Bourdelais teaches the method exercised to the purpose that a prospective purchaser of one or more of the one or more suitably-real-world objects may be rendered the high-resolution 3D perspective view where at least one of the one or more 3D objects is a virtual object not existing in the world, and which might only suitably exist within the suitably-real-world 3D scene; wherein even though at least one 3D object shown in the high-resolution 3D perspective view is virtual and does not actually exist, the 3D object both (i) could

exist, and (ii) could exist as so shown within the high-resolution 3D perspective view (Bourdelais column 19, lines 55-67) Bourdelais teaches the user of a computer aided design machine which allows a user to design objects in a free form fashion. Therefore, images for items that do not exist in the real world can be created and stored on the server to be retrieved by the system to be displayed.

References to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention.

Claim Rejections - 35 USC § 103

6. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 8, 10, 11, 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourdelais et al (hereinafter Bourdelais) U.S. Patent No. 6,727,925 B1 issued Apr. 27, 2004 and filed Dec.20, 1999, and in further view of Technicon Inc. et al, (hereinafter Technicon) "ShowroomDemo", Feb. 1999, http://web.archive.org/web/19990224120825/www.technicon.com/showroomdemo/main.html.**

With respect to **dependent claims 8 and 10,** as indicated in the above discussion, Bourdelais teaches/discloses every element of claim 4.

Bourdelais expressly teaches a system that contains a network set of computers that can contain any number of machines (Bourdelais figure 1). Bourdelais also teaches the sending of low-resolution images from a server to a browser located within a computer.

Bourdelais fails to expressly teach/disclose *the method wherein the rendering at a First computer of the first, low-resolution, 3D composite image is from (1) a low-resolution 3D model of the object received upon the communications network from a third computer as a model from a* ***pre-existing catalog*** *of low-resolution 3D object models.*

Technicon teaches an on-line catalog system that provides 3D photo-realistic images to a customer instantaneously as well as placing the images within a 3D room, for the purpose of providing a customer with a realistic view of the how the furniture will appear once the furniture is purchased. Bourdelais and Technicon are analogous art because they are from the same field of endeavor of providing online software to provide 3D representations of furniture or other objects in realistic settings.

Accordingly, It would have been obvious to one of ordinary skill in the art, having the teachings of the applicant submitted prior art, Bourdelais and Technicon before him at the time of the invention was made, to modify the system of Bourdelais to incorporate the online catalog as taught by Technicon, in order to obtain a system that is able to display the furnishings as pictures instead of showing the item in a list. One would have been motivated to make such a combination because of the need to shorten sales cycles by viewing the images directly, reduce costs by obtaining sales online and eliminate product configuration errors as taught by Technicon.

With respect to **dependent claim 11,** Bourdelais teaches the method *wherein the (1) low-resolution 3D model of a selected suitably-real-world object received upon the communications network from the second computer is of an object for sale.* (Bourdelais column 2, lines 20-30) Bourdelais teaches the low resolution images are a 3d wire framed model of a chair

that is available for purchase.

In regard to **Independent claim 14,** Bourdelais teaches a computerized method of producing a high resolution photorealistic 3D image on and between at least two computers communicating over a digital communications network, the method comprising:

- Providing from a server computer across a digital communications network to a client computer (i) a catalog of small, low-resolution, 3D graphics models of objects and (ii) at least one model of a scene in which the objects may exist; (Bourdelais column 16, lines 55-67) Bourdelais teaches the process of providing 3d graphics models within a scene.
- Selecting at the client computer one or more objects and at least one scene; (Bourdelais column 10, lines 40-47) Bourdelais teaches the selecting of one of more objects and one or more scenes for a bathroom, living room or kitchen.
- Communicating these selections from the client computer across the communications network to the server computer; (Bourdelais column 14, lines 6-34) Bourdelais teaches the communicating selections from the user to the server.
- Responsively to receipt of the selections, providing from the server computer across the communications network to the client computer a set of at least the associated small, low-resolution 3D models; Bourdelais column 16, lines 45-67) Bourdelais teaches the providing 3d wire framed simplified images to the browser over the web.
- Manually manipulating at the client computer spatial (i) positions and orientations of a selected one or more object models from the set of models (ii) within the at least one scene model, and rendering at the client computer from these object and scene models, a first, rudimentary, low-resolution 3D image of the one or more selected objects in the at least one scene, this low-resolution 3D image being used as a preview; (Bourdelais figures 8-12) Bourdelais shows the manipulations on the interface by the user to derive the appropriate furnishing and scene that they desire.

- Communicating, from the client computer across the communications network to the sever computer, at least camera, lighting and image size and resolution parameters, and positional placements and orientations of each of the selected and manipulated one or more objects in the at least one scene; (Bourdelais column 16, lines 45-52) Bourdelais teaches the use of a digital camera to capture and submit images to the server. It is known in the art how a digital camera can change the resolution of an image and a camera can be held at different locations while viewing the piece of furniture. Bourdelais also teaches the sizing of the scene and image and where the resolution of the pictures is high-resolution color by also can be low-resolution black and white (Bourdelais column 8, lines 65-67 and column 9, lines 1-10).
- From the received positional placements and orientations of the selected one or more objects, rendering in the server computer from associated large high-resolution 3D models of the selected one or more objects and of the at least one scene, a photorealistic, 3D high-resolution composite image of the selected one or more objects located and oriented in the scene; ;(Bourdelais teaches the use of a web server to store or render the images that are requested by the browser. Bourdelais teaches multiple configurations for the first browser to connect to the server or network.
- Communicating from the sever computer upon the digital communications network to the client computer the photo realistically-rendered high-resolution 3D composite image; (Bourdelais column 16, lines 61-67) Bourdelais teaches the communicating over the world wide web from the web server to the first browser.
- Displaying at the client computer this photo realistically-rendered high-resolution 3D composite image (Bourdelais figures 12-14 and column 14, lines 23-34) Bourdelais teaches the displaying of photorealistic 3d images on the display screen the 3d images obtained from the remote computer. Bourdelais also teaches the images are high-resolution color images.

Bourdelais fails to expressly disclose:

- A catalog of small, low-resolution, 3D graphics models of objects

Technicon teaches an on-line catalog system that provides 3D photo-realistic images to a customer instantaneously as well as placing the images within a 3D room, for the purpose of providing a customer with a realistic view of the how the furniture will appear once the furniture is purchased (Technicon page 3, lines 1-10). Bourdelais and Technicon are analogous art because they are from the same field of endeavor of providing online software to provide 3D representations of furniture or other objects in realistic settings.

Accordingly, It would have been obvious to one of ordinary skill in the art, having the teachings of the applicant submitted prior art, Bourdelais and Technicon before him at the time of the invention was made, to modify the system of Bourdelais to incorporate the online catalog as taught by Technicon, in order to obtain a system that is able to display the furnishings as pictures instead of showing the item in a list. One would have been motivated to make such a combination because of the need to shorten sales cycles by viewing the images directly, reduce costs by obtaining sales online and eliminate product configuration errors as taught by Technicon.

With respect to **dependent claims 15 and 17,** as indicated in the above discussion, Bourdelais in view of Technicon teaches/discloses every element of claim 14.

Bourdelais fails to expressly teach/disclose *the computerized method of producing a high resolution photorealistic image wherein the photo realistically-rendered high-resolution 3D composite image is suitable to serve as advertising copy, meaning in particular that it is devoid of clearly visible defects; wherein a 3D graphic artist of this photo realistically-rendered high-resolution 3D composite image who performs selections and manipulations at the client computer need not have to attend to, and did not actually attend to, the building of the 3D models and any textures, or rendering which building transpired elsewhere.*

Technicon teaches an on-line catalog system that provides 3D photo-realistic images to a customer instantaneously as well as placing the images within a 3D room, for the purpose of providing a customer with a realistic view of the how the furniture will appear once the furniture is purchased (Technicon page 3, lines 1-10). Technicon also teaches the process of using the

saved room configurations in advertising copies (Technicon page 7, pictures 1-4 and Akasha Engineers). Additionally, Technicon shows the ability to render within a browser the furniture configurations without an artist having to touch the images (Technicon page 8) Bourdelais and Technicon are analogous art because they are from the same field of endeavor of providing online software to provide 3D representations of furniture or other objects in realistic settings.

Accordingly, It would have been obvious to one of ordinary skill in the art, having the teachings of the applicant submitted prior art, Bourdelais and Technicon before him at the time of the invention was made, to modify the system of Bourdelais to incorporate the online catalog as taught by Technicon, in order to obtain a system that is able to display the furnishings as pictures instead of showing the item in a list. One would have been motivated to make such a combination because of the need to shorten sales cycles by viewing the images directly, reduce costs by obtaining sales online and eliminate product configuration errors as taught by Technicon.

With respect to **dependent claim 16,** Bourdelais teaches the computerized method of producing a high resolution photorealistic image according to claim 15 wherein the building of the 3D models and any textures transpired in a model-building computer (Bourdelais figures 8-10) Bourdelais teaches the process of applying textures to the furnishings and sending the changes to the server which are rendered in the browser as 3d wire framed images.

In regard to **Independent claim 18,** Bourdelais teaches *a method of rendering at high resolution a photorealistic 3D image as a business service on a digital communications network, the high resolution photorealistic 3D image rendering business service comprising*:

- *Providing from a server computer across the digital communications network to a client computer any of (i) a catalog of small, low-resolution, 3D graphics models, or (ii) a tool for generating small, low-resolution, 3D graphics models, or (iii) an actual, small, low-resolution, 3D graphics models of at least (1) objects and (2) scenes in which the objects may exist;(*

Bourdelais Figure 1 and column 16, lines 32-67) Bourdelais teaches a graphics server that communicates with a browser over the web. Bourdelais also teaches the generation of low resolution 3d wire frames images and the ability for the user to select a scene that is either a bathroom, living room, home office or bedroom (Bourdelais column 9, lines 25-35).

- *Receiving at the server computer upon the digital communications network from the client computer information as to the identities of at least one object and at least one scene selected from the catalog, and further information as to the camera and lighting parameters and image size and resolution and where and at what orientations selected identified objects are to be placed and oriented in the selected scene*; (Bourdelais column 16, lines 35-67) Bourdelais teaches the receiving of the selections for the 3d object and the scene. Bourdelais also teaches the ability to size and scale the image (Bourdelais figure 8 and 9 and column 10, liens 1-5). Bourdelais also teaches the process of gathering the photorealistic images from a digital camera in which the user has control over adjusting the resolution parameters. Bourdelais teaches the process of accepting multiple images and allowing the user to render the different views of the image, which would include the ability to select different images with different resolutions. Bourdelais also teaches the images presented are high-resolution color images but the ability to use lower resolution black and white images exists (Bourdelais column 8, lines 65-67 and column 9, lines 1-10). Additionally, Bourdelais shows the process of moving and rotating the chair within the scene (Bourdelais figures 8 and 9).
- Responsively to received information and further information, rendering in the server computer from associated large high-resolution 3D models of each selected object and also of the identified scene, a photorealistic, 3D high-resolution composite image of each selected object located and oriented in the identified scene; and communicating from the sever computer upon the digital communications network to the client computer this photo realistically-rendered 3D high-resolution composite image; (Bourdelais Figure 1 and column 16, lines 32-67 and figure 12-14) Bourdelais teaches the process of rendering low resolution 3d wire framed images into 3d high resolution images at the request of the user through the

use of a graphics rendering server over the network. Bourdelais teaches the images are the furnishings and the scene selected by the user.

- Wherein the client computer is provided with a photo realistically-rendered 3D high-resolution composite image without necessity of either (i) having the high-resolution models from which this high-resolution composite image is rendered, or (ii) rendering this high-resolution composite image itself. (Bourdelais column 16, lines 32-67) Bourdelais teaches the process of sending the client code and photo realistic images from a server to a client computer in which the client computer does not contain the high-resolution images but only the low-resolution images.

Bourdelais does not expressly disclose:

- ***A catalog of 3d objects***

Technicon teaches an on-line catalog system that provides 3D photo-realistic images to a customer instantaneously as well as placing the images within a 3D room, for the purpose of providing a customer with a realistic view of the how the furniture will appear once the furniture is purchased (Technicon page 3, lines 1-10). Bourdelais and Technicon are analogous art because they are from the same field of endeavor of providing online software to provide 3D representations of furniture or other objects in realistic settings.

Accordingly, It would have been obvious to one of ordinary skill in the art, having the teachings of the applicant submitted prior art, Bourdelais and Technicon before him at the time of the invention was made, to modify the system of Bourdelais to incorporate the online catalog as taught by Technicon, in order to obtain a system that is able to display the furnishings as pictures instead of showing the item in a list. One would have been motivated to make such a combination because of the need to shorten sales cycles by viewing the images directly, reduce costs by obtaining sales online and eliminate product configuration errors as taught by Technicon.

In regard to **Independent claim 19,** Bourdelais teaches a method performed by (i) a relatively simple client computer running relatively simple software (ii) connected upon a digital communications network to (iii) a relatively powerful graphics server computer running relatively sophisticated graphics image rendering software, of deriving at the client computer a high-resolution photorealistic 3D image as is a typical product of the graphics server computer and beyond the capabilities of the client computer and software operating therein, the method by which a networked client computer may bootstrap itself to production of a high resolution photorealistic 3D image (Bourdelais column 7, lines 24-36 and column 8, lines 20-32) comprising:

- Receiving in the client computer from the graphics server computer across the digital communications network a catalog of, or tool for generating low-resolution 3D graphics models for selected (1) objects and (2) scenes in which the objects may exist; (Bourdelais Figure 1 and column 16, lines 32-67) Bourdelais teaches a graphics server that communicates with a browser over the web. Bourdelais also teaches the generation of low resolution 3d wire frames images and the ability for the user to select a scene that is either a bathroom, living room, home office or bedroom (Bourdelais column 9, lines 25-35).
- Selecting at the client computer objects and at least one scene from the catalog and downloading the selected objects and/or scene from the graphics server computer across the communications network, or, alternatively as the case may be, generating with the tool object and/or scene models; (Bourdelais Figures 8 and 9 and column 9, lines 24-31 and column 16, lines 32-67) Bourdelais shows the process of selecting a 3d wire framed object (chair) and a scene (room size and type) and the process of sending the selections to a graphics server over the web.
- Manipulating at the client computer the received and/or generated low-resolution models to derive spatial positions and orientations of objects within a scene; (Bourdelais figure 8 and 9 and column 10, lines 60-67 and column 11, lines 1-20) Bourdelais teaches the process of selecting the furnishings in the browser and then rotating, and moving the objects to a scale within a the scene.

- Communicating these object positional placements and orientations, and also camera, lighting and image size and resolution parameters, across the communications network to the graphics server computer; (Bourdelais column 10, lines 40-67) Bourdelais teaches the process of communicating the choices, which include the image size, made by the user to a web server. Bourdelais also teaches the use of digital camera to create the images for selection from the computer in which the resolution parameters are specified. Bourdelais teaches the process of adjusting the lighting parameters (column 19, lines 35-37)
- Receiving back from the graphics server computer upon the digital communications network a photorealistic 3D high-resolution composite image of the objects placed, oriented, illuminated and viewed from a perspective, as were all derived from the manipulating, and as were communicated to the graphics server computer and Displaying at the client computer this photo realistically-rendered 3D high-resolution composite image (Bourdelais figures 12-14) Bourdelais shows the process of rending the high resolution images received from the server within the browser. Bourdelais also teaches the images a photo realistic 3d images rendered and specified in the manner that the user has chosen (Bourdelais column 12, lines 10-35).

Bourdelais does not expressly disclose:

- ***A catalog***

Technicon teaches an on-line catalog system that provides 3D photo-realistic images to a customer instantaneously as well as placing the images within a 3D room, for the purpose of providing a customer with a realistic view of the how the furniture will appear once the furniture is purchased (Technicon page 3, lines 1-10). Bourdelais and Technicon are analogous art because they are from the same field of endeavor of providing online software to provide 3D representations of furniture or other objects in realistic settings.

Accordingly, It would have been obvious to one of ordinary skill in the art, having the teachings of the applicant submitted prior art, Bourdelais and Technicon before him at the time of

the invention was made, to modify the system of Bourdelais to incorporate the online catalog as taught by Technicon, in order to obtain a system that is able to display the furnishings as pictures instead of showing the item in a list. One would have been motivated to make such a combination because of the need to shorten sales cycles by viewing the images directly, reduce costs by obtaining sales online and eliminate product configuration errors as taught by Technicon.

References to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,331,858 B2 to Fisher et al, issued Dec. 18, 2001 and filed June 2, 1998 and discloses a display terminal user interface with ability to select remotely stored surface finishes for furniture and other objects within a 3D interactive online ordering system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. Theriault whose telephone number is (571) 272-5867. The examiner can normally be reached on M-F 7:00 - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on (571) 272-4136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER
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